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Online Visual Media: A Caliber for Globalized Technical Communication beyond the Year 2000

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Abstract—Internet-driven organizational socialization has expanded globally at a skyrocketing pace. As a result, online visual media rather than compressed text has increasingly been emphasized for the effective global communication. Meanwhile, the limited space on the screen, as well as linguistic problems (for non-native English readers), has brought a new challenge for computerized document design. Students taking technical communication courses are more and more encouraged to acquire visual dexterity by using various updated software. This paper introduces updated technical communication courses at some U.S. colleges, where web site and computer-based visual design are highly emphasized for enhanced written communications. It also presents some benefits of online visual media vs. critical disadvantages of prose-based print media, focusing on readability and perception.

Key Words—technical communication, perception, visual media, text, web site

Introduction

Highly-advanced computer technologies and Internet-driven global communications—an emerging lifeblood in today's society—have substantially changed technical communication courses at U.S. colleges. The course such as "Document Design"—a conventional title in technical communication course—has been changed into a more specific and professional one. Examples are: "Software Documentation," "Multimedia Authoring" (Colorado University at Denver), and "Computer Graphic and Interface Design" (the University of Minnesota Crookston). Meanwhile, a new methodology focused on the Internet and web page design have been integrated into core courses— "Web Page and Site Design" (the University of Michigan, Ann Arbor), "Visual Media in Technical Communication," "Computer Documentation" (the University of Washington), and "Electronic Communications" (Northern Arizona University). This indicates that online visual communication is highly expected to perform as an effective technical information conveyor for the next century.

Visual vs. Text for Direct and Perceptible Information

A major reason for using visuals is highly related to the readability and understandability of the whole document. Depending on the writing circumstances, graphics or even a simple flowchart can exceed a well-described text in deciphering information. Unlike text, visuals are more likely to convey simple and straightforward information (William and Harkus, 1998). With its pictorial representation, visuals can directly provide for readers the content as a whole unit. Sensory impression through a pictorial form facilitates audiences' perception of the object. In other words, this suggests that visual presentation, rather than text, is excellent in creating easy-to-follow and understand messages through its symbolic appearance. This notion has influenced people engaged in international technical communication, where representational visuals can be expected to become a key information transmitter or translator for non-native English speakers.

A drawback of using text, particularly in global communication, is deeply connected with linguistic problems. Syntactic concerns, for instance, always occupy writers or editors' minds. "Linguistic editing focuses on readability of business and technical documents for second language readers. When editing for readability, editors may be concerned with limiting vocabulary and simplifying syntax to make business and technical documents easy to comprehend" (Leininger and Yuan, 1998). In fact, readers admit that they find it difficult to read through a prose-based document mainly because of its appearance—no symbolized messages. Take an instructional manual—although the text usually offers a neat and simple format, it occasionally proves inferior (slower and less accurate) to a flowchart or a logical tree in conveying direct and simple messages. Unlike visuals, text is more likely to put irrelevant information with its broad written expressions.

Consequently, as Wright and Reid (1973) point out, such irrelevancies will substantially affect readers' perception of visual information.

Computer Software for Visual Documentation

A goal for using visuals is anchored in the efficiency and accuracy of message perception with *less time and effort*. Compressed prose can sacrifice readers' energy and concentration, eventually causing poor or misleading comprehension. In fact, Anderson and Campbell (1998) claim that crammed texts in a limited space, like on a web page, can distract the readers' attention and finally affects their perception. Because of this, writers need to be strategic and cautious on *the perceptive interrelatedness* between text amount and reading/deciphering capabilities.

Boekelder and Steehouder (1998) state the benefits of visual media as follows:

1. Graphics help selection of relevant information.
2. Graphics reduce the syntactic complexity of the instruction.
3. Graphics help readers follow procedures step-by-step. (p. 230)

The point is that when reading through a long textual document, readers often forget the first part and reread it as a result. Such a tedious and inefficient communication process—reading and decoding messages repeatedly—has been quite common in global business circles.

Mindful of this, technical communication courses at the University of Washington provide several graphics-related core courses, including "The Computer in Technical Communication (TC 310)" and "Visual Media in Technical Communication (TC 411)." TC 310, for instance, provides a wide range of visual, graphic, and desktop applications—Adobe Photoshop, Animated Gifts, Microsoft Music Producer, Macromedia Flash, Microsoft Powerpoint, Microsoft Frontpage, Dynamic Html, Active Server Pages, Adobe Pagemaker, Extra Goodies. TC 411 meanwhile challenges the most effective use and selection in both print and electronic communications. The course description explains: "Topics include the human visual system, theories of perception and attention, effects of visuals on learning from text, competing theories of memory for visuals, use of visuals in conjunction with prose, and the impact of new visual display media."

Web Page—Well-designed Visual rather than Verbiage

At the University of Michigan, the mission of a new course (TC 450 Web Page and Site Design) is explained as follows: "The primary purpose of this course is to provide students with the theory and practice necessary to create effective, dynamic Web sites. Within the Web design profession, three areas of specialization seem to be emerging: information/content design, visual design, and programming. No one course could fully cover all three, but this course will provide a strong introduction to each and allow students to further explore the areas of greatest interest to them."

Sheehan (1998) points out that multimedia texts, including web sites, are quite different from prose-based documents. Web site editors, therefore, are encouraged to handle on-line screen as graphical information rather than text. The reason is that readers often browse a web site and skim for information by just picking up the graphics and visualized texts, including colorful headlines and subheads. In this sense, Anderson and Campbell (1998) claim that each web page (screen) be handled as a paragraph —only one main idea should be presented on each screen. Ultimately, the mission of a web site is not to delete important details or to compress them at the risk of readability, but to make

the contents visually attractive and effective for a reader's *first-hand* perception. A solution, as a result, is to try to put other information on the next screen, if the page looks *ugly* due to compressed information.

The following table explains the major technical differences between web page and print media, including message design, layout, and transmission process:

Table 1. Compared technical differences between web page and print media.

Compared Items:	Web site	Print
Working Process	Collaboration: working together in real time	Cooperation: serial steps In editing and production
Audience	Audience definition refined: rethinking site structure	Audience definition a given: Polishing and updating
Document	Site map: naming conventions for all files related to project	Document control: tracking files related to project
Design	Touring like a user: Trial by client	Design testing: internal/external review processes
Focus	Mostly on structure and layout	Mostly on text
Style Modifying	Modifying prose style for new audience	Revising style for original audience
Coherence	Navigation tools: visual continuity devices and orienters	Textual coherence devices: inchworming, topic strings in paragraphs, transitional words and phrases
Verbiage Cutting	Compressing and reducing verbiage to reduce screen clutter	Compressing and reducing verbiage to improve flow and coherence
Correction	Correcting to more informal standards	Correcting to Standard Written English
Layout	Following a style sheet for text and layout	Following a style sheet for text
File name	Enforcing file name conventions	Following file name conventions
Check point	Link checking	Verifying index, table of contents, figure and table numbering
Verification	Correcting HTML	Verifying copy changes

[Note] An excerpt from Anderson and Campbell (1998), "Editing a Web Site: Extending the Levels of Edit," pp. 51-54.

As seen from the table, both web site and print emphasize verbiage reduction. This means they both follow a basic rule in technical writing—creating direct, short, simple, and clear sentences. In fact, well-shaped screen design (one idea on each screen like in a paragraph) and highly-eliminated prose can contribute to an audience's enhanced visual awareness and readability of the message. Leininger and Yuan (1998) therefore suggest that technical editing can be defined as "substantive editing" (p. 20). In addition, Sun Microsystems, Inc. reveals that online readers usually look for short, clearly segmented chunks of information only because they don't want to scroll down the page.

Globalized Technical Communication Society

Before the Internet, organizational socialization was developed under limited circumstances (i.e. costs, time, and geographic problems, etc.). Since the Internet, the scope of organizational socialization has substantially expanded to cover the whole world. Currently, lots of companies and organizations are using the Internet and web sites, in a bid for first-hand information armed with concrete and colorful graphic information along with clear-cut texts. Second language learners, or non-native English readers, acknowledge that graphic/pictorial information seems comfortable and easy-to-understand for them. Conversely, reading and decoding English texts with no visual information seems tedious or tough because readers have to *read and understand.*

People in the ancient times, with no text at all, used to draw symbols and pictures. Through such media, they—regardless of the amount—successfully conveyed lots of messages. It might be good to reflect on such a text-free era, then look to further potentials of computer-assisted visual communication technologies. The challenge has already begun in some U.S. technical communication courses, and the results will be positive, productive, and quite useful for global technical communication beyond the year 2000.

Summary

Computer-based online communication will be concerned with more visual and less prose in the near future. More powerful computer software, focused on visual presentation, will increasingly hit the market, and this will ask for writers' or editors' enhanced visual communication strategies, theories and hands-on skills. Mindful of this, the University of Michigan and the University of Washington, leading schools in technical writing, have developed new core courses as introduced earlier. This firmly indicates that the methodology in technical communication has reached a new stage—global from local or domestic, and visual from textual. Beyond the year 2000, visual

communication carries the mission of establishing visually attractive and easily decipherable technical communication for readers across the world.

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